

Communities of Practice, Social Capital and Organizational Knowledge

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I. Introduction

Within all organizations, there exists a formal structure that is described by boxes, arrows, documented policies and procedures. This formal structure may be contrasted with a more spontaneous environment that is based on self-organized group interaction and individual relationships. Behind every organization chart lie informal clusters of employees who work together-sharing knowledge, solving common problems and exchanging insights and frustrations. When appropriately supported by the formal organization, these “communities of practice,” as they are often called, play a critical role: they are the major building blocks in creating, sharing and applying organizational knowledge.

Organizations ranging from British Petroleum to

the World Bank have begun to invest time, energy and money in supporting their own communities of practice, viewing these communities as vehicles for managing their organizational knowledge. A common question asked by these organizations is “How should we best allocate our resources to assist these informal communities, manage knowledge and ultimately derive value for the rest of the organization?” Before this question can be answered, a prior question must be addressed: What are the mechanisms by which communities of practice impact knowledge creation, sharing and use?

When we consider this question, we converge on a related topic emerging in the economic and sociological literatures: social capital. Social capital, as we will discuss later, refers to the social resources individuals within a community draw upon and that provide value to themselves and their organizations.

These social resources include familiarity, trust, and a degree of shared language and common context among individuals. These resources manifest themselves in a variety of ways, including reducing the time it takes to locate an expert within an organization, minimizing the costs associated with validating expertise, and reducing the time and effort associated with developing an agreement between individuals in an organization. All of these activities enable an organization to better manage its knowledge resources. Much like financial or human capital, social capital can be fostered and tapped as needed to enable individuals to perform their jobs more efficiently and effectively.

In this paper, we hypothesize that communities of practice are valuable to organizations because they foster the development of social capital, which in turn is a necessary condition for knowledge creation, sharing and use. Drawing upon the literature, and our own experience, we will attempt to demonstrate the linkages between communities of practice, social capital and knowledge management. Also, we will explore implications for managers attempting to undertake knowledge management efforts and identify methods for leveraging communities within their own organization.

II. Communities of Practice

Communities of practice are defined as collections of individuals bound by informal relationships that share similar work roles and a common context.¹ Each of the words in this definition merits close consideration. First, the term “community” highlights the personal basis upon which relationships are formed. The word further suggests that communities of practice are not constrained by typical geographic,

business unit or functional boundaries, but rather by common tasks, contexts, and work interests.

Second, the word “practice” implies “knowledge in action.”² The concept of “practice” as used here, is the representation of how individuals *actually* perform their jobs on a day-to-day basis, as opposed to more formal policies and procedures that reflect the way work *should* be performed. Further, the term “practice” refers to the dynamic process through which individuals learn how to do their jobs by actually performing tasks and interacting with others performing similar tasks. Etienne Wenger, an authority on the subject, states that,

“Learning reflects our participation in communities of practice. If learning is a matter of engagement in socially defined practices, the communities that share these practices play an important role in shaping learning. The communities that matter are not always the most easily identifiable, because they often remain informal.”³

Communities of practice differ notably from conventional units of organization, such as teams or work groups. Teams and groups have a task orientation, are often launched for a specific purpose, and have formal requirements for membership. Communities, by contrast, have an informal membership that is often fluid and self-organizing in nature. John Seely Brown from Xerox PARC and Paul Duguid at the University of Berkeley, two leading researchers in this field, state that,

“Group theory, in general, focuses on groups as canonical (reliant on formal rules and tasks), bounded entities that lie within an organization, and that are organized, or at least sanctioned by that organization and its view of tasks. The communities (of practice) that we discern, are

by contrast, often noncanonical and not formally recognized by the organization. They are more fluid and interpenetrative than bounded...And significantly, communities are emergent. That is to say their share and membership emerges in the process of activity, as opposed to being created to carry out a task."⁴

Communities of practice exist within all organizations. These range from the peer groups of drilling specialists within British Petroleum Prokesh, Steven, Unleashing the Powers of Learning: An Interview With British Petroleums⁵ to poverty specialists at the World Bank to the insurance claims processors documented in Etienne Wengers recent book, Communities of Practice: Learning, Meaning and Identity.⁶ They are formed over time by individuals with a need to associate themselves with others facing similar issues and challenges within an organization. In most organizations, they exist without formal charters or organizational mandates. However, many companies are beginning to recognize that these communities can be supported and leveraged to benefit the "membership" of communities and the organization as a whole.

III. Social Capital

Social capital has recently gained importance in the eyes of both sociologists and economists. In the past, significant attention has been paid to the development of "human capital": how individuals obtain the education, skills and background necessary to be productive in a competitive labor market. However, sociologists such as James Coleman and Mark Granovetter argue that there is much more to explaining the differences in individual success than

individual characteristics alone. This school of thinking argues that "even in new institutional economics, there is a failure to recognize the importance of concrete personal relationships and networks of relations in generating trust, in establishing expectations, and in creating and enforcing norms."⁷ To address these failures in standard economic theory, the concept of social capital, the "web of social relationships that influences individual behavior and thereby affects economic growth,"⁸ was developed. Social capital theory has been used to explain a number of phenomena, ranging from social policy issues in inner city housing projects to economic development in Northern Italy.⁹

In a recent article, "Social Capital, Intellectual Capital, and the Organizational Advantage" Janine Nahapiet at the University of Oxford and Sumantra Ghoshal at the London Business School have attempted to link social capital at the organizational level with the organizations ability to manage its knowledge resources. They define social capital as,

"the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit."¹⁰

The authors further identify social capital as having three interrelated dimensions: structural, relational and cognitive.¹¹ The structural dimension refers to the formation of informal networks that enable individuals to identify others with potential resources. These networks include relationships with strong ties (those with multiple contacts on a regular basis) and "weak ties" (individuals whose contact occurs less frequently). Overall, the structural dimension of social capital reflects the need for individuals to reach out to others within an organi-

zation to seek out resources that they may not have at their own disposal.

While having a network of individuals is a critical part in developing social capital, equally as important is the interpersonal dynamics between individuals within the network. This relational dimension addresses issues around trust, shared norms and values, obligations, expectations and identification that are critical in developing social capital among members of a group. Francis Fukuyama, in his recent book entitled *Trust*, states,

“Trust is the expectation that arrives within a community of regular, honest and cooperative behavior, based on commonly shared norms on the part of other members of that community... Social capital is the capability that arises from the prevalence of trust in a society or in certain parts of it. It can be embodied in the smallest and most basic social group, the family, as well as the largest of all groups, the nation and in all the other groups in between. Social capital differs from other forms of human capital insofar as it is usually created and transmitted through cultural mechanisms like religion, tradition or historical habit.”¹²

This relational dimension recognizes that social capital is developed and fostered when individuals believe that their actions will be appropriately reciprocated, and that individuals will meet their expected obligations.

The final dimension in the authors’ construct is the cognitive dimension. The cognitive dimension addresses the need for a common context and language to build social capital. Without a common under-

standing or “vocabulary,” it is difficult to construct the connections necessary to create and foster social capital. Building a common context can be done through two mechanisms. The first mechanism is the shared use of common objects and artifacts. These objects, such as documents, procedure manuals and memos provide a shared reference point that others can quickly understand. Another technique is the use of stories that convey a sense of shared history and context which is retransmitted and carried on by others in the organization.

Nahapiet and Ghoshal developed a model that illustrates how these three dimensions influence four variables that mediate the creation and sharing of intellectual capital (what we at IBM refer to as organizational knowledge). These four variables include: access to parties for combining/exchanging intellectual capital, the anticipation of value through combining/exchanging intellectual capital, the motivation of individuals to combine/share intellectual capital and the ability for the organization to change according to the needs of its outside environment.¹³ They hypothesize that increasing the amount of social capital within an organization will positively influence the intermediate variables and subsequently impact the creation and sharing of organizational knowledge.

In a follow-up study, Ghoshal and Wenpin Tsai test this theoretical construct in a large multinational electronics company.¹⁴ Using product innovation as a proxy for knowledge creation and sharing, the authors found that social capital had significant effects on the levels of resource exchange and combination within the organization. While this study was limited to the results of one organization, it further reinforced the concept that social capital has a significant impact on the way organizations create

and share knowledge.

IV. Linking Social Capital and Communities of Practice

If we assume that the presence of social capital has a positive impact on the knowledge creation, sharing and use, then how do communities of practice serve as a vehicle for building social capital? Using the three dimensions described previously (structural, relational and cognitive) we can illustrate how communities play a critical role in fostering the development of social capital:

Structural dimension

Communities of practice provide the opportunity for individuals to develop a network of individuals who have similar interests. This manifests itself in several ways. First, the community serves as an intra-network clearinghouse by identifying those with relevant knowledge and helping individuals within the community make connections between one another. This is particularly valuable as the organization grows and goes “virtual” and individuals find it increasingly difficult to know “who knows what.” Second, the community acts as a reference mechanism, quickly enabling individuals to evaluate the knowledge of other members without having to contact each individual within the network. Lastly, the community of practice can help connect individuals from outside the network to those who are already identified as community members. This function can be critical, especially for new employees who are looking to identify individuals who hold the firm-specific knowledge needed to be successful in their new roles.

Relational dimension

Communities of practice foster the interpersonal

interactions necessary to build a sense of trust and obligations critical to building social capital. By being able to bring people together to create and share relevant knowledge, the community creates the condition where individuals can “test” the trustworthiness and the commitment of other community members. Through this process, the community builds its own form of “informal currency,” with norms and values that are commonly held and terms and conditions of “payment” that are generally accepted. It is through these repeated interactions that individuals can develop empathy for the situations of others and can develop the rapport with individuals in the community.

Cognitive dimension

Because they tend to be organized around a common issue or theme, communities of practice are instrumental in maintaining the shared “vernacular” used by their members. First, communities of practice help shape the actual terminology used by group members in everyday work conversations. In addition, they generate and share the knowledge objects or “artifacts” that are used by community members. Equally as important, communities generate stories that communicate the norms and values of the community and of the organization as a whole. These stories enable new members to take cues from more experienced personnel and allow the development of a community memory that perpetuates itself long after the original community members have departed.

V. Implications for managers

Communities of practice play an instrumental role in developing the structural, relational and cognitive dimensions of social capital. These dimensions, in

turn, lead to an increased ability to manage organizational knowledge. Managers seeking to increase the level of social capital via these communities of practice should consider the following rules of thumb:

Identify communities of practice that influence critical goals within the organization. Within a given organization, there may be a large number of communities. Many of these will exist independently. When identifying communities to which resources should be applied, the organization should select those that have a direct impact on the organization's strategic objectives. In a pharmaceutical company, for example, a community of practice focused on regulatory approval issues might be a primary target for initial community assistance. In a software development company, a community of Java developers might be a likely candidate.

Provide communities with the opportunity to meet face-to-face. In many geographically dispersed organizations, communities of practice are challenged by the lack of opportunity to make the direct connections that foster each of the three dimensions of social capital. Allowing people to meet each other enables them to more quickly build the network of contacts within the community, foster interactions that allow for trust building and share knowledge artifacts and stories that builds a common context among participants. Without these face-to-face encounters, the process of community building becomes less effective and less likely to benefit the organization as a whole.

Provide tools that enable the community to identify new members and maintain contact with existing members. Technology can play an important role in supporting communities of practice. Tools

such as personal web pages, directories of expertise and knowledge maps can help individuals locate others with similar interests and experiences, fostering the network component of social capital. Same-time collaborative tools such as chat rooms and videoconferences can help community members maintain connections, and foster interactions that lead to increased trust and context sharing. In addition, knowledge repositories can play an important role in helping community members maintain and refine their stock of knowledge artifacts, and can enable community members to quickly and easily access representations of the community memory.

Identify key "experts" within the community and enable them to provide support to the larger group. Within most communities, there often exist a select group of individuals whom others in the community seek out for their expertise. These "experts" play a critical role in the community. Not only do they provide organizational wisdom, but they also direct individuals to others in the network who may have even more relevant knowledge. These experts are often not recognized within the formal organization - performing this function in parallel with their normal day-to-day work. We have seen leading organizations begin to identify these individuals, and give them time and resources to more efficiently create and share community knowledge with others in the organization.

Remember that the capital, in social capital, implies an investment model with an expected return. Communities of practice are naturally present in all organizations. However, for these communities to exploit the type of social capital required to effectively create, share and use organizational knowledge, they often require outside investment from the formal organization as a whole. Such investments

can enable existing communities to be more effective, efficient and/or innovative. Investment may take many forms, ranging from money for face-to-face meetings, technology to support distributed communities, to enabling experts to spend time providing assistance to others in the network. These are all tangible investments and, when focused appropriately, can pay dividends in terms of stronger, more vibrant communities.

VI. Conclusion

Communities of practice play a critical role in the day-to-day activities of organizations. One of their key functions is to build social capital among its members, which in turn enables their members to more effectively manage their organizational knowledge. In this paper, we have attempted to illustrate the important linkages between communities of practice and social capital. Further, we have provided managers with some guidelines on how to best support the growth of social capital within communities. We hope that these insights will help organizations further their ability to manage their knowledge and lead to improved organizational performance.

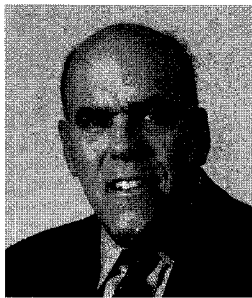
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